

REMARKS

Prior to this paper, claims 5, 7-9 and 12-20 were pending in the present application. By this paper claims 17-19 have been cancelled and claims 21-30 have been added. Therefore, claims 5, 7-9, 12-16 and 20-30 are pending.

Applicants respectfully submit that the present application is in condition for allowance for the reasons that follow.

Request for Interview

Applicants respectfully request that their representative be permitted to interview examiner Brahan prior to any issuance of any next office action other than a Notice of Allowance. Applicants submit herewith a request for interview form.

Objections to the Drawings

The drawings are objected to in view of claims 17-19. In order to advance prosecution, Applicants cancel claims 17-19 without prejudice or disclaimer. Applicants respectfully request that the objection to the drawings be removed in light of this amendment.

Rejections Under 35 U.S.C. §112, Second Paragraph

In the Office Action, claims 5, 8, 9 and 12-20 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In order to advance prosecution, and without prejudice or disclaimer, claim 5 has been amended, and Applicants respectfully request reconsideration.

Applicants respectfully submit that since the term “immovable” was not given patentable weight in examining the pre-amended set of claims, the scope of the claims, for examination purposes, has not been altered.

Rejections Under 35 U.S.C. § 102

Claims 5, 8, 9, 14, 15 and 17-19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Slocum (United States Patent No. 5,733,024). In response, Applicants respectfully submit that the above claims are allowable for at least the reasons that follow.

Applicants rely on MPEP § 2131, entitled “Anticipation – Application of 35 U.S.C. 102(a), (b), and (e),” which states that a “claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” It is respectfully submitted that Slocum does not describe each and every element of any claim.

The claimed invention differs from Slocum for at least the reason that, in the claimed invention, the system includes a workstation that has kinemtic coupling connecting elements on a side wall that connects directly with corresponding kinemaitc coupling connecting elements on a side wall of a substrate conveying module. That is, the workstation connects ***directly to*** the substrate conveying module by way of kineamtic coupling elements located on the sides of the devices. This is different than Slocum.

Slocum does teach that individual modules, such as a wafer handling robot module and a photoresist coater module,¹ must be accurately located relative to each other.² However, in contrast to the invention as claimed above, Slocum utilizes a “rigid frame,” such as frame 64 of Fig. 12, to locate the modules relative to each other. Slocum places the modules ***on*** the frame and connects ***the modules to the frame*** by way of kinematic couplings. That is, assuming *arguendo* that Slocum teaches a substrate conveying module and a workstation, Slocum does not teach a connection ***between*** a workstation and a substrate conveying module by way of a kinematic coupling.

¹ Assumed *arguendo* to satisfy the recitation of a substrate conveying module and a workstation, respectively.

² “Since interaction takes place between the modules, it is essential that the modules be accurately located relative to each other. . . For ease of description the invention will be described with reference to a photoresist processing machine consisting of several dozen modules including wafer handling robots, photoresist coaters, photoresist developers, hot plates, cold plates and interfaces to other equipment.” Slocum, Col. 4, lines 51-60.

The use of the rigid frame is at the heart of Slocum's teachings. Indeed, Slocum states that, in reference to Figs. 11 to 13, "one of the key features of the invention is the provision of a rigid frame." (Slocum, col. 6, lines 62-64.) Further, the figures of Slocum present modules being supported by a frame, as most eminently shown in Fig. 1, showing "main base support frame 12 to which are attached a plurality of modules 14." (Slocum, col. 5, lines 25-28.)

In sum, the identified frame 64 is not a workstation, but merely a frame on which modules are attached. Because Solcum does not teach each and every element of the invention according to the claims, Slocum does not anticipate the claims. Reconsideration is respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 5, 7-9 and 12-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Stark (U.S. Patent No. 4,917,556) in view of Slocum. Applicants respectfully traverse the rejection as to the claims above, and submit that these claims are allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first and third criteria of MPEP § 2143 have not been met in the Office Action.

The Cited References Do Not Suggest All Claim Recitations

Even assuming *arguendo* that the first requirement of MPEP § 2143 was satisfied in the Office Action (which it is not, as will be explained below), the cited references still do not meet the third requirement, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

The Office Action alleges that Stark teaches a workstation that has, “on at least two different side walls, coupling connecting elements (at the gate valve) that coact with corresponding coupling connecting elements on at least one side wall of the substrate conveying module.” For example, the Office Action states that “the reference . . . shows screws (S₁ and S₂; see figure 4) as connections at the gate valves between the workstations and the conveying stations.”

In response, in order to advance prosecution, Applicants have amended claims 5 and 7, as seen above, to clearly recite that the kinematic coupling connecting elements of the workstation ***are directly connected to*** corresponding kinematic coupling connecting elements on at least one side wall of the substrate conveying module. Applicants respectfully submit that the screws S₁ and S₂ do not impart a teaching or suggestion of a workstation that “has, on at least two different side walls, [any (as opposed to kinematic)] coupling connecting elements that ***are directly connected to*** corresponding [] coupling connecting elements on at least one side wall of the substrate conveying module,” as claimed. (Emphasis added.) This is at least because, the alleged connectors (S₁ and S₂) are ***not*** connected to each other.³ Substituting kinematic couplings for screws S₁ and S₂ would still not result in connecting elements that are ***directly*** connected to each other, as claimed. Instead, at most, a kinematic connecting element would be located on a workstation and a corresponding element would be located on a gate valve, and a kinematic connecting element would be located on a substrate conveying module with the corresponding connecting element located on the gate valve. The

³ In reference to Fig. 2, Stark states that, in regard to the housing of transfer module 200a, the “ports of each transfer chamber are defined by extensions of the housing which form horizontal slots extending from interior chamber 215 to the exterior of the housing. For example, port 210 (FIG. 1) is defined by housing extension 299a, shown in FIG. 2.” (Col. 5, lines 8-20.) Further, Stark states that “Housing extensions 299a and 299y defining ports P₁ and P₂ are attached to ***valve body*** 102 by means of a first plurality of screws S₁ and a second plurality of screws S₂ driven through flanges 295 and 296 respectively.” (Cols. 5-6, lines 67-02.)

element on the workstation would not connect directly to the element on the conveying module because of the presence of the elements on the gate valve.

In sum, even if the first requirement of MPEP § 2143 is satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action, since the cited references do not teach each and every element of the present invention. Thus, the present claims are allowable.

Lack of Suggestion or Motivation to Modify or Combine the References

MPEP § 2143.01 details the requirements on the PTO for establishing motivation to modify or combine references to reject a claim as obvious. One requirement, as detailed in MPEP § 2143.01, subsection 6, is that “the proposed modification cannot change the principle of operation of a reference – If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810 (CCPA 1959).” In *Ratti*, the CCPA held that the “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in the primary reference.” This substantial redesign would have resulted in changing a rigid seal to a resilient seal. Thus, a reference cannot be modified to render an invention obvious if the modification changes a principle of operation of the reference.

With the above in mind, it is respectfully submitted that since the teachings of Stark rely on the use of bolts / screws that ***do not*** directly connect with corresponding components, but instead connect with gate valves (***every*** schematic in Stark shows a first module being connected to a gate valve, which in turn is connected to a second module), substituting kinematic couplings for the bolts / screws of Stark ***and*** removing the gate valves so the coupling elements connect directly to each other would change the principle of operation of Stark. Since modifying Stark in this manner changes the principle of operation of Stark, just as changing the rigid seal to a resilient seal was found to change the principle of operation in *Ratti*, “the teachings of [Stark] are **not sufficient** to render the claims *prima facie* obvious.” (MPEP § 2143.01, emphasis added.)

Moreover, it is respectfully submitted that since the teachings of Slocum rely on the use of a rigid frame (in regards to which Slocum states, as noted above “one of the key features of the invention is the provision of a rigid frame”) to assemble and align the alleged components into a single machine, substituting direct connection for the rigid frame of Slocum would change the principle of operation of Slocum. Since modifying Slocum to utilize sidewall connections changes the principle of operation of Slocum, just as changing the rigid seal to a resilient seal was found to change the principle of operation in *Ratti*, “the teachings of [Slocum] are **not sufficient** to render the claims *prima facie* obvious.” (MPEP § 2143.01, emphasis added.)

* * * * *

In summary, because of the lack of suggestion or motivation in the prior art to modify the reference, the first requirement of MPEP § 2143 has not been met and, hence, a *prima facie* case of obviousness has not been established.

New Claims

Claim 21 has been added. Claim 21 is allowable for the pertinent reasons detailed above, and for the additional reason that the claim recites that “the system is adapted to provide a substantially variable and substantially flexible arrangement of the substrate conveying module with respect to the workstation at a user’s site.” Entry and allowance is respectfully requested.

Claims 22-30 are allowable due to their dependency from claim 21, and due to the pertinent reasons detailed above.

Support for new claim 21 may be found, among other places, at the last paragraph of page 9 and the first paragraph of page 10, and pages 12 and 13. Support for new claims 22-29 may be found in the originally filed claims. Support for new claim 30 may be found, among other places, at the second paragraph on page 10.

Conclusion

Applicants believe that the present application is in condition for allowance, and favorable reconsideration is requested.

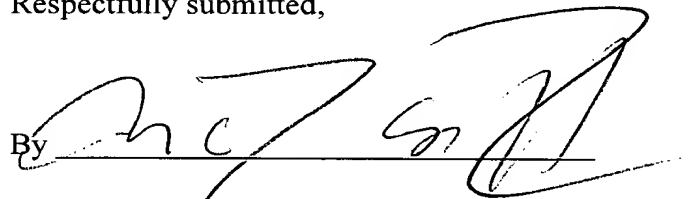
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Brahan is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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